and that "the full import of such a propaganda became apparent when the anthracite strikes of 1900 and 1902 brought about the welding of many nationalities." The organ was unknown at this time in the hard-coal fields, and no news was printed in it in foreign tongues. On p. 44 the strike of 1897 is said to include "practically the entire field, except a few districts in West Virginia"; but on p. 67 we have "out of 15,049 workers [in West Virginia] in 1897, only 5,314 struck." When, on p. 171, the author says: "The joint agreement has brought, by unity of action, the abolition of company stores and company tenements, the inauguration of the eight-hour day, regulation of screens, equalization of wages of different classes, and the improvement of working conditions and safety appliances," he overestimates the benefits wrought, for company houses and company stores still exist, as well as disparity of wages in fields where the joint agreement obtains.

The book is well worth reading and ought to find a place on the shelf of every man interested in arbitration and conciliation, while editors will find it of great value in giving dates and facts regarding joint agreements in the coal industry of America.

PETER ROBERTS

NEW YORK CITY

Public Utilities; Their Cost New and Depreciation. By HAMMOND V. HAYES. New York: D. Van Nostrand Co., 1913. 8vo, pp. xii+262. $2.00 net.

Public Utilities; Their Fair Present Value and Return. By HAMMOND V. HAYES. New York: D. Van Nostrand Co., 1915. 8vo, pp. viii+207. $2.00 net.

Mr. Hayes has based his explanations and comment, and what may be termed his theory of valuation, upon the principles enunciated in the decisions of the courts and public service commissions. Authoritative decisions have not covered all phases of the question and they have frequently thrown only side lights on the specific questions that are beginning to stand out clearly and demand unequivocal answers. It is thus helpful to have the conscientious examination that we have in the first book, mentioned above, of the factors that enter into valuation, and to have the attempt made to outline a theory that will pass through all points marked by important decisions.

It is inevitable, however, that such a method of treating the problem should leave the reader somewhat confused. The questions involved are complex, and courts and commissions have naturally committed them-

selves no further than the exigencies of the case immediately in hand have demanded. There is a temptation to read into these decisions a broader application than is warranted and to attempt to harmonize them so that a consistent body of principles may be established. Such an attempt, however, must result in some confusion because all the decisions cannot be harmonized. Their trends are sometimes quite different.

There is much promise in the way cases to determine value and fair return have recently been presented, because there has been greater tendency to depart from abstract consideration and to present concrete evidence. "Fair," "just," "reasonable," "equitable," are all shadowy terms. All will agree that values considered should be "fair," that rates should be "reasonable," that returns should be "just" and "equitable," but these are all names of places; they are not the names of the roads, and however we juggle them about, they do not point the way.

In some recent cases a more studied attempt has been made to show what costs do and what do not enter into the creation of enterprises, what kinds of costs must be recognized and what need not be recognized, and what income return will be necessary in order to induce the inflow of capital. If these questions are so judged that no one would become an owner under the conditions, we may arrive at an academic "fairness," but it will be of little practical benefit if the business refuses to live and grow.

One finds himself imagining the thoughts of the man with money to invest, who sits quietly down with this book to satisfy himself as to the security of the capital that he may put into public utility enterprises. He finds that the base on which his return is to be figured is not necessarily the original cost of the property, nor the cost of replacement; that it is not the market value of the securities nor the capitalization of the earnings. He finds that the judgment with which capital expenditures are made may be questioned in arriving at the base, and that "valuation is a mixed question of fact, judgment, and law"; that in "many cases" the base "will be a compromise figure for the reason that a public service corporation differs from a private undertaking in that the tribunal must consider what is fair to the public as well as to the undertaking." This hardly strengthens his general feeling that however complicated the thing seems, he will at any rate have "fair" treatment, and, moreover, he finds that his remedy for any fancied wrongs in regulation is an appeal to the courts, and that the court may use quite a different base than that used by the state, and that the rate, instead of being one "which is a fair reward for the hazard and risk of those investing in the enterprise,"

"may be only that which could be held as not so low as to be confiscatory."

Mr. Hayes is not responsible for the impression one would get that the determination of the base on which return is to be figured and the size of the return allowable are such complicated and indefinite matters. He has simply shown one the numerous questions at issue and the uncertainty there may be as to what the decisions will be in different cases.

He does, however, argue that "depreciation is affected only indirectly by inefficiency, and that as a necessary consequence, depreciation is dependent wholly upon the relation of the age to the life of the perishable property"; also that "if the undertaking has such an amount in reserve that, with it and the accumulations derived from the annuity and interest that will be received during the remaining years of the plant life, the cost of the property will be recovered, then the cost of the property is its fair present value," and also that "the undertaking must guarantee the public at all times a continuation of the enterprise by adequate reserves."

Mr. Hayes will not find universal acceptance of his views of depreciation and the part it plays in valuation and the making of rates. There will be no question that the undertaking must at all times provide good service at reasonable rates, but that is different from "guaranteeing a continuation of the enterprise by adequate reserves."

Even though there were a definite contract between an enterprise and the public that adequate reserves would be maintained, there would be great practical difficulty and apparently some false economic reasoning in attempting to rectify a default in the contract by lowering the rates for the same service that would have been supplied had there been no default. According to the depreciation theory, the reserves are for the purpose of "guaranteeing a continuation of the enterprise," and yet in the absence of these reserves the matter is to be rectified by putting the enterprise in still weaker position for continuation. In the case of such a contract as mentioned, it would be logical to require that the default be made good either immediately or gradually, but it seems economically unsound, and impossible practically, to offset the default by a future gift to consumers. If the enterprise had the reserves, no one would question that a consumer should pay a rate based on the "cost new" of the property. Whether the reserves are there or not depends not at all upon what the new consumer has or has not done, and whether he shall benefit as a method of penalizing the enterprise is a question of punishment and not of scientific adjustment of rates.

The practical difficulties soon arise under such methods. Growing properties require growing capital investment. Gas, electric light, and

street railway properties have, in almost all American cities, grown for many years at a rate of from 5 per cent to 10 per cent a year, which means that every six to fifteen years there is gradually laid down by the side of a plant, another of the same capacity, which requires additional investment about equal to the original investment. This new investment is the factor that is of most importance if new service is to be provided as it is demanded. It may be of academic interest to have the opinion of the courts as to what will and what will not be confiscation according to the Constitution, and it will be interesting to know what would theoretically be a proper method of accounting for depreciation, but, after all, the one thing that must be done is to decide upon a treatment of the problem that will lead those who have capital to invest it in the enterprise.

Suppose an electric light plant to have such an average age that, in accordance with the reasoning of Mr. Hayes, it is worth only 60 per cent of cost new, and suppose for one reason or another there are no reserves for depreciation. He would apparently then say that the value of the plant for rate-making purposes is 60 per cent of cost new, and that the owners are entitled to but 60 per cent of the amount to which they would be entitled if the plant were perfectly new, or if there were depreciation reserves equal to 40 per cent of the cost new. Owners are entitled to the smallest rate of return for which they will readily contribute money to the enterprise, so that the rates established will provide, in accordance with the reasoning above, a return only 60 per cent of the smallest return that would be acceptable to investors if they were building a plant new to do the business. But if the business grows, new plant at cost new has to be provided, and the rates do not yield enough to pay the return necessary to attract the new capital for investment.

In penalizing an enterprise for its practices, it would seem to be better to adopt methods that would not result in depriving the public of something it otherwise would have.

In his second book Mr. Hayes continues his discussion of the value and the fair return of public utilities, confining the discussion, however, to public utilities subject to regulation by state or governmental authorities. He presents an interesting method of determining going value and advocates convincingly the advantage of grouping costs of promotion and other preliminary expenses by themselves instead of simply applying percentages to physical costs. He goes farther with the discussion of depreciation and other factors important in regulation. There is recognition of the difficulties in applying clear-cut methods of regulation to old enterprises, and one merit of the book is the attempt to meet

difficulties and explain them rather than to ignore them for the sake of a cleaner-looking theory.

The book will be found interesting and helpful. One may not agree wholly with the conclusions, but the author has considered very many phases of the problem, apparently without bias, and with knowledge and ability.

On p. 16 the author says:

> The rules, however, which might be formulated for a new company, could be applied rarely to an older company without doing great injustice to the company and to present holders of its securities. The mutual obligations of public utility companies and the public have been recognized only during recent years. . . . . What are now regarded as past errors of public utility companies must be forgotten and a fair value for rates must be established at the time of an investigation into rates for service, which will be a compromise, a compromise which will afford equal justice to both the users and sellers of a utility service. This figure, once found, establishes a new basis upon which all of the financial operations of a company will be carried out in the future.

It is these old companies whose cases are being considered for the first time that present the great difficulties of regulation, and this extract comes very near begging the question. There need be no difficulty with new companies started today under regulating bodies. These bodies can specify their terms as to guaranties of continuity and other matters, and there would be no facts afterward difficult to ascertain. One must object, however, to the reading into the past agreements that were recognized by neither enterprise nor user. A regulating body may say now, "The enterprise must guarantee by adequate reserves the continuity of good service. We agree that we will raise or lower rates for service so that the enterprise can always just meet the expense of the service including sufficient charges for reserves for renewals and also a fair return on the capital employed." No arguments that have been advanced are convincing that such an agreement has been implied in the past. Enterprises have been under obligation to give good service, not only to those demanding it at the time the rights to do business were granted, but also to those who might wish the service when the communities became larger. The enterprises, however, have without criticism made early rates that they thought would build up the business, regardless of whether the early users were or were not paying the full cost, including their proportion of the value of perishable property; and this has not always been a hardship to the later users, because if the early users had had to pay the full cost, there would in many cases never have been any enterprise for later users to use.

The theory of rate-making that would charge exact cost to the user each year, so that there would be no injustice to different users, should make it just as wrong to charge a rate below the full cost at any time as to charge a rate above the cost. Mr. Hayes admits, however, frankly enough, on p. 190, that "companies furnishing a public service have found it extremely difficult if not impossible to raise rates; rates could be lowered, but when once lowered they could not in most instances be increased." This is a blow to the theory of mutual obligations and there is no doubt of its truth. Moreover, if it is true, the question of additional capital for extensions of service becomes at once vital in the case of enterprises that have had rates reduced because based on a valuation less than cost new. Investors cannot on the reduced rates get a fair return and they must depend upon rates being immediately increased after their new contribution of capital. If this increase is uncertain, development is prevented.

Courts find it easier, in their problems, to take flashlight pictures of the conditions to which they apply the law; but regulation of rates for the sake of best results is a problem in dynamics, not statics. It has to do with movement, growth, development, as well as past history and present conditions. Even present users of utilities are greatly interested in the future and it will hardly satisfy them to go without extended future service because perhaps contributions of former users are not in the place that the theory of "guaranty by reserves for renewals" requires.

It may not always be possible to do full justice to those who have gone before. It is possible to see that justice is done in the future, and this justice would seem to be most completely done by making rates that will take care of future growth while specifying the ways that the proceeds from these rates shall be used so that continuity of the service will be assured.

RUSSELL ROBB

BOSTON, MASS.

Railroads: Finance and Organization. By WILLIAM Z. RIPLEY. New York: Longmans, Green & Co., 1915. 8vo, pp. xix+638. $3.00 net.

This valuable and comprehensive treatise is a companion volume to the author's *Railroads-Rates and Regulation*, published in 1912. The earlier work considered the theory of rates, the main features of the